

#### ABSTRACT OF THE DISCLOSURE

An amount ML of particles accumulated in small holes of a particulate filter is calculated in accordance with a pressure drop  $\Delta P$  detected by a pressure sensor and a characteristic line. The characteristic line is defined by a first characteristic line and a second characteristic line, which is defined after exceeding a transition point TP. When the particles accumulated in the small holes are burned while remaining accumulated particles on the surface, the second characteristic line is shifted in a parallel fashion and compensated. Thus, the characteristic line is corrected so that the accumulation amount ML can be precisely calculated, even if particles accumulated in small holes are burned and the characteristic is changed.